

What is claimed is:

1           1.       A method of configuring a network security system, comprising:  
2               a.       forming a registry data structure for defining roles within a  
3       network;  
4               b.       mapping network security policies to the registry data structure,  
5       said network security policies being contained in one or more policy documents  
6       stored in machine readable form; and  
7               c.       using a document transformation algorithm to transform the policy  
8       documents into one or more device-specific configuration documents stored in  
9       machine-readable form.

1           2.       The method according to claim 1, further comprising generating instances  
2       of the roles and associated security policies, each instance being mapped to  
3       physical segments of the network.

1           3.       The method according to claim 1, further comprising distributing the  
2       device-specific configuration documents to network entities for implementing the  
3       network security policies.

1           4.       The method according to claim 1, wherein the registry data structure  
2       comprises a collection of documents that include information regarding the  
3       network roles and topology of the network.

1           5.       The method according to claim 1, wherein the registry data structure  
2       comprises a hierarchy of network types, each type comprising a definition of a  
3       network role.

1           6.       The method according to claim 5, wherein each network role is  
2       representative of a set of applications to be supported by the network.

1        7.        The method according to claim 5, wherein when a parent network type is  
2 mapped to a policy contained in one of the policy documents, a child network  
3 type of the parent network type inherits the policy.

1        8.        The method according to claim 7, wherein when the child network type is  
2 mapped to a policy contained in one of the policy documents that is conflict with  
3 the policy inherited from the parent, the policy mapped to the child takes  
4 precedence over the policy inherited from the parent.

1        9.        The method according to claim 5, wherein an instance of one of the  
2 network types is mapped to one or more physical network segments and wherein  
3 the network type includes a set of data fields for defining the physical network  
4 segments.

1        10.       The method according to claim 6, wherein one of the network types is an  
2 abstract type without an instance mapped to a physical network segment.

1        11.       The method according to claim 5, wherein each network type further  
2 comprises a data field for identifying a human administrator.

1        12.       The method according to claim 5, wherein each network type further  
2 comprises a data field for providing a human readable description of the network  
3 type.

1        13.       The method according to claim 1, wherein the network security policies  
2 are representative of restrictions to be placed on one or more of the network roles  
3 in the registry data structure.

1        14.       The method according to claim 1, wherein the policy documents are in  
2 extensible markup language (XML).

1 15. The method according to claim 1, wherein the document transformation  
2 algorithm is specific to a network entity utilized for implementing one or more of  
3 the security policies contained in the policy documents.

1 16. The method according to claim 15, wherein the document transformation  
2 algorithm includes style sheet language for transformation (XSLT) controlled by a  
3 script.

1 17. The method according to claim 16, wherein the script is specific to a  
2 network entity.

1 18. The method according to claim 16, further comprising a step of selecting  
2 the script from among a plurality of scripts, each being specific to a different  
3 network entity.

1 19. The method according to claim 16, wherein the device-specific  
2 configuration documents are in plain text format.

1 20. A apparatus for configuring a network security system, comprising:  
2 a. a registry data structure including a plurality of network types,  
3 each network type being stored within a document in the registry and including a  
4 role definition and a set of fields defining segments of a network;  
5 b. security policy documents mapped to the registry data structure,  
6 each security policy document being representative of restrictions to be placed on  
7 a network type in the registry data structure; and  
8 c. a document transformation algorithm for transforming the  
9 documents in the registry and the policy documents into device-specific  
10 configuration documents stored in machine-readable form.